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FEDERAL HORTICULTURAL BOARD.

C. L. MARLATT, *Chairman;* W. A. ORTON, GEO. B. SUDWORTH, W. D. HUNTER, KARL F. KELLERMAN. R. C. ALTHOUSE, *Secretary.*

SERVICE AND REGULATORY ANNOUNCEMENTS.

JUNE, 1918.

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THE PINK BOLLWORM SITUATION.

THE WORK IN TEXAS.

The principal activities during the month in Texas have been in cooperation with the State authorities in legal steps looking to the destruction of cotton planted in violation of the pink bollworm act of the State of Texas and in the conduct of field-to-field surveys of the quarantined areas to effect the destruction of all volunteer or seedling cotton which might otherwise be the means of carrying over to another year the pink bollworm. With regard to the latter Dr. Hunter reports that recent examination of 45 fields in different localities in the quarantined area about Trinity Bay showed more or less volunteer cotton in one-third of these fields, the number of plants running from 1 to 75 per acre, the latter number, however, being very unusual. All of the available men have been concentrated on this clean-up work, the plan followed being to work from the periphery to the center of the quarantined area. In most cases the volunteer plants are removed and destroyed by the inspectors themselves. It is seldom necessary to employ labor for this purpose.

THE LAGUNA RESEARCH STATION.

The breeding and other experimental work conducted at the station at Lerdo in the Laguna, Mexico, is progressing favorably. Our particular interest is the subject of possible alternative food plants of the pink bollworm. Evidence in Egypt would seem to indicate that particularly the hollyhock and okra may

serve as such alternative food plants. So far the breeding results in the Laguna have been substantially negative, and no definite conclusions can yet be announced.

Mr. Eduardo Gonzalez Tejada, who has been connected with this station since its inception in January, 1918, has resigned to look after his private interests. During his term of service under the board Mr. Tejada had particular charge of the experimentation looking to the possibility of substituting other crops for cotton in the Laguna in the effort which it is hoped will ultimately be made to exterminate the pink bollworm in this district by starvation methods. The work so far indicates that the peanut is a very promising substitute crop. Wheat, corn, potato, and soy bean, if a market for the products of the latter can be found, are also promising substitute crops. Fully one-half of the Laguna has been planted this year to wheat, with the promise of extraordinary yields. The work with substitute crops has had a very large educational value in the Laguna, and in the belief of Mr. Tejada should be continued.

PRESENT CONDITIONS IN EGYPT.

Mr. H. A. Ballou, entomologist on the staff of the Imperial Department of Agriculture for the West Indies, who has been loaned for surveys in Egypt during the past two years to study the pink bollworm situation there, recently returned through Washington and gave the board some interesting details in relation to the present status of this insect in Egypt. Much of this information has a direct bearing on our local problem in Texas.

The pink bollworm has now spread throughout the cotton-producing areas of Egypt, and its damage to the general crop of Egypt is placed at not less than 17 per cent of the yield. This damage is greatest in varieties of cotton which yield their principal crop with the second and third pickings and least with the Sakellarides cotton, which yields its principal crop with the first picking. The fact that the Sakellarides cotton represents a large percentage of the cotton crop of Egypt and is from its manner of fruiting least affected by the pink bollworm undoubtedly reduces the average loss which would otherwise be experienced in Egypt from this insect. The control efforts in Egypt are to develop earlier cropping cottons, prompt milling of seed, disinfection of planting seed, and compulsory eradication and clean-up of cotton fields between November 1 and 30, or for the Delta not later than December 15. This clean-up of fields comprises the collecting and burning of all green bolls during the period indicated and the pulling up and drying of all the cotton stalks. These stalks are used for fuel or would be otherwise also immediately destroyed. The bolls are dried and burned in the open places in villages, and the stalks when pulled are stacked in such open places in villages, and are then carefully inspected by official inspectors to determine that all bolls have been removed and destroyed. This work under Egyptian conditions where labor is cheap costs for the collection of the bolls alone $3 an acre. The pulling of the plants is additional, but is offset by the value of these plants for fuel. Under American conditions this same work would probably cost three times what it now costs in Egypt. An alternative method is the pulling of the plant with the green bolls attached and the removal of these bolls thereafter by hand or by drawing the stalks over coarse wooden combs. In view of the rather long cotton season in Texas and Mexico this condition would indicate the possibilities of very heavy loss from this insect in our cotton-growing States and in Mexico.

It is rather important to get this information of the rather strenuous methods which it is necessary now to practice in Egypt to maintain the crop at its present rate of production, and as already noted a loss of 17 per cent is assigned to this insect in spite of these control efforts which under Egyptian conditions are enforced under strong governmental authority.

BORDER FUMIGATION HOUSES.

Contracts have been awarded for the construction of temporary fumigating houses on the Texas-Mexico border at El Paso, Del Rio, Eagle Pass, Laredo, and Brownsville. The largest of these is the one at Laredo, which has a capacity of 15 cars and the smallest at Del Rio, where there is no railroad connection, which is equipped for the fumigation of wagons and trucks. This equipment when completed will make it possible to give a much more effective fumigation to cars and freight entering the United States from Mexico than is now possible. Mr. R. Kent Beattie, who is in charge of the border fumigation, has supervised the planning of these houses and will direct their construction and operation.—C. L. M.

IMPORTATIONS OF EGYPTIAN COTTON RESTRICTED TO 80,000 BALES FOR THE CALENDAR YEAR.

The War Trade Board has announced that on and after June 20, 1918, importations of Egyptian cotton will be restricted to Sakellarides and other high-grade Egyptian cottons commonly known as "Sakels," having a length of staple of 1½ inches or more; and that importations will be embargoed for the remainder of the calendar year if at any time before December 31, 1918, importations of Egyptian cotton into the United States shipped since January 1, 1918, shall have reached the total of 80,000 bales.

PROPOSED QUARANTINE AGAINST BAMBOO ON ACCOUNT OF DANGEROUS PLANT DISEASES.

NOTICE OF PUBLIC HEARING.

The Secretary of Agriculture has information that dangerous plant diseases, including the bamboo smut, *Ustilago shiraiana*, not heretofore widely prevalent or distributed within and throughout the United States, exist in Japan, China, India, Philippine Islands, Australia, New Zealand, Oceania, Africa, Europe, South America, British West Indies, Cuba, and Central America. It therefore becomes the duty of the Secretary of Agriculture to consider the advisability of prohibiting the further importation of bamboo plants or cuttings thereof capable of propagation, including all genera and species of the tribe *Bambuseae*, from the regions named and from all other foreign countries and localities.

In compliance with the plant quarantine act of August 20, 1912 (37 Stat., 315), a public hearing will be held at the Department of Agriculture, Washington, D. C., Room 11, Federal Horticultural Board, at 10 o'clock a. m., July 2, 1918, in order that any person interested in the subject of this proposed quarantine may be heard either in person or by attorney.

The bamboo is subject to a great many different maladies, including smuts, rusts, witch's broom, leaf destroying fungi, wood-destroying fungi, and diseases of undetermined origin. One of the worst of these is bamboo smut (*Ustilago shiraiana*). This smut attacks and kills the young canes. When severe the growth of the stalks is greatly disturbed and death results. The stems of the affected plants become brittle and useless. In Japan it sometimes kills whole forests of bamboo.

Bamboo culture is considered to be a promising industry for the southern United States, and the Department of Agriculture has made considerable progress in introducing valuable bamboo species. If this project is to develop, it is necessary to protect the infant industry against the chance entrance of one or more of these serious diseases.

This prohibition does not apply to bamboo timber, consisting of the mature dried culms or canes which are imported for fishing-rod or furniture-making purposes; neither to any kind of article manufactured from bamboo, nor to canned bamboo shoots for eating purposes.

LIST OF CURRENT QUARANTINE AND OTHER RESTRICTIVE ORDERS.

QUARANTINE ORDERS.

The numbers assigned to these quarantines indicate merely the chronological order of issuance of both domestic and foreign quarantines in one numerical series. The quarantine numbers missing in this list are quarantines which have either been superseded or revoked. For convenience of reference these quarantines are here classified as domestic and foreign.

DOMESTIC QUARANTINES.

Date palms.—Quarantine No. 6: Regulates the interstate movement of date palms or date-palm offshoots from Riverside County, Cal., east of the San Bernardino meridian; Imperial County, Cal.; Yuma, Maricopa, and Pinal Counties, Ariz., and Webb County, Tex.; on account of the Parlatoria scale (*Parlatoria blanchardi*) and the Phoenicococcus scale (*Phoenicococcus marlatti.*)

Cotton seed and cottonseed hulls.—Quarantine No. 9: Prohibits the importation of cotton seed and cottonseed hulls from the Territory of Hawaii on account of the pink bollworm.

Hawaiian fruits.—Quarantine No. 13, revised: Prohibits or regulates the importation from Hawaii of all fruits and vegetables, in the natural or raw state, on account of the Mediterranean fruit fly and the melon fly.

Sugar cane.—Quarantine No. 16: Prohibits the importation from Hawaii and Porto Rico of living canes of sugar cane or cuttings or parts thereof, on account of certain injurious insects and fungus diseases.

Cotton.—Quarantine No. 23, revised: Regulates the movement of cotton from Hawaii to the continental United States, on account of the pink bollworm.

Gypsy moth and brown-tail moth.—Quarantine No. 27: Regulates the movement interstate to any point outside of the quarantined towns and territory, or from points in the generally infested area to points in the lightly infested area, of stone or quarry products, and of the plants and plant products listed therein. This quarantine covers portions of the New England States.

Five-leafed pines, Ribes, and Grossularia.—Quarantine No. 26.: Prohibits the interstate movement of five-leafed pines, currant and gooseberry plants from all States east of and including the States of Minnesota, Iowa, Missouri, Arkansas, and Louisiana to points outside of this area; prohibits further, the interstate movement of five-leafed pines and black-currant plants to points outside the area comprising the States of Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, and New York on account of the white-pine blister rust.

Sweet potato and yam.—Quarantine No. 30: Prohibits the movement from the Territories of Hawaii and Porto Rico into or through any other Territory, State, or District of the United States of all varieties of sweet potatoes and yams (*Ipomoea batatas* and *Dioscorea spp.*) regardless of the use for which the same are intended, on account of the sweet-potato weevil (*Cylas formicarius*) and the sweet-potato scarabee (*Euscepes batatae*).

Banana plants.—Quarantine No. 32: Prohibits the movement from the Territories of Hawaii and Porto Rico into or through any other Territory, State, or District of the United States of any species or variety of banana plants (*Musa* spp.), regardless of the use for which the same are intended, on account of two injurious weevils, *Rhabdocnemis obscurus* and *Metamasius hemipterus.*

FOREIGN QUARANTINES.

Irish potato.—Quarantine No. 3: Prohibits the importation of the common or Irish potato from Newfoundland; the islands of St. Pierre and Miquelon; Great Britain, including England, Scotland, Wales, and Ireland; Germany; and Austria-Hungary, on account of the disease known as potato wart.

Mexican fruits.—Quarantine No. 5, as amended: Prohibits the importation of oranges, sweet limes, grapefruit, mangoes, achras sapotes, peaches, guavas, and plums from the Republic of Mexico, on account of the Mexican fruit fly.

Five-leafed pines, Ribes, and Grossularia.—Quarantine No. 7, as amended: Prohibits the importation from each and every country of Europe and Asia, and from the Dominion of Canada and Newfoundland, of all five-leafed pines and all species and varieties of the genera *Ribes* and *Grossularia*, on acount of the white-pine blister rust.

Cotton seed and cottonseed hulls.—Quarantine No. 8, as amended: Prohibits the importation from any foreign locality and country, excepting only the locality of the Imperial Valley, in the State of Lower California, Mexico, of cotton seed (including seed cotton) of all species and varieties, and cottonseed hulls, on account of the pink bollworm. Cotton and cotton seed from the Imperial Valley may be entered under permit and regulation.

Seeds of avocado or alligator pear.—Quarantine No. 12: Prohibits the importation from Mexico and the countries of Central America of the seeds of the avocado or alligator pear, on account of the avocado weevil.

Sugar cane.—Quarantine No. 15: Prohibits the importation from all foreign countries of living canes of sugar cane or cuttings or parts thereof, on account of certain injurious insects and fungus diseases. There are no restrictions on the entry of such materials into Hawaii and Porto Rico.

Citrus nursery stock. Quarantine No. 19: Prohibits the importation from all foreign localities and countries of all citrus nursery stock, including buds, scions, and seeds, on account of the citrus canker and other dangerous citrus diseases. The terms "citrus," as used in this quarantine, includes all plants belonging to the subfamily or tribe *Citratæ.*

European pines.—Quarantine No. 20: Prohibits, on account of the European pine-shoot moth (*Evetria buoliana*), the importation from all European countries and localities of all pines not already excluded by Quarantine No. 7.

Indian corn or maize and related plants.—Quarantine No. 24, as amended: Prohibits the importation from southeastern Asia (including India, Siam, Indo-China, and China), Malayan Archipelago, Australia, New Zealand, Oceania, Philippine Islands, Formosa, Japan, and adjacent islands, in the raw or unmanufactured state, of seed and all other portions of Indian corn or maize (*Zea mays* L.), and the closely related plants, including all species of Teosinte (*Euchlaena*), Job's tears (*Croix*), *Polytoca, Chionachne,* and *Sclerachne,* on account of the downy mildews and *Physoderma* diseases of Indian corn, except that Indian corn or maize may be imported on compliance with the conditions prescribed in the regulations of the Secretary of Agriculture.

Citrus fruit.—Quarantine No. 28; Prohibits the importation from eastern and southeastern Asia (including India, Siam, Indo-China, and China), the Malayan Archipelago, the Philippine Islands, Oceania (except Australia, Tasmania, and

New Zealand), Japan (including Formosa and other islands adjacent to Japan), and the Union of South Africa, of all species and varieties of citrus fruits, on account of citrus canker, except that oranges of the mandarin class (including satsuma and tangerine varieties) may be imported on compliance with the conditions prescribed in the regulations of the Secretary of Agriculture.

Sweet potato and yam.—Quarantine No. 29: Prohibits the importation for any purpose of any variety of sweet potatoes or yams (*Ipomœa batatas* and *Dioscorea* spp.) from all foreign countries and localities, on account of the sweet potato weevils (*Cylas* spp.) and the sweet potato scarabee (*Euscepes batatæ*).

Banana plants.—Quarantine No. 31; Prohibits the importation for any purpose of any species or variety of banana plants (*Musa* spp.), from all foreign countries and localities, on account of the banana root borer (*Cosmopolites sordidus*).

OTHER RESTRICTIVE ORDERS.

The regulation of the entry of nursery stock from foreign countries into the United States was specifically provided for in the plant-quarantine act. The act further provides for the similar regulation of any other class of plants or plant products when the need therefor shall be determined. The entry of the plants and plant products listed below has been brought under such regulation:

Nursery stock.—Nursery stock is entered under regulations requiring a permit, foreign certification and marking, reporting arrival and distribution, and inspection at destination. The term "nursery stock" includes all field-grown florists' stock, trees, shrubs, vines, cuttings, grafts, scions, buds, fruit pits and other seeds of fruit and ornamental trees or shrubs, and other plants and plant products for propagation, except field, vegetable, and flower seeds, bedding plants, and other herbaceous plants, bulbs, and roots.

Irish potatoes.—The importation of Irish potatoes is prohibited altogether from the countries enumerated in the potato quarantine. Potatoes may be admitted from other foreign countries in accordance with the order of December 22, 1913, bringing the entry of potatoes under restriction on account of injurious potato diseases and insect pests. The following countries have qualified for the importation of potatoes under the regulations issued under said order: Denmark, Holland, Belgium, Cuba, Bermuda, and the Dominion of Canada. The regulations issued under this order have been amended so as to permit, free of any restrictions whatsoever under the plant-quarantine act, the importation of potatoes from any foreign country into the Territories of Porto Rico and Hawaii for local use only and from the Dominion of Canada and Bermuda into the United States or any of its Territories or Districts.

Avocado, or alligator pear.—The order of February 27, 1914, prohibits the importation from Mexico and the countries of Central America of the fruits of the avocado, or alligator pear, except under permit and in accordance with the other provisions of the regulations issued under said order, on account of the avocado weevil. Entry is permitted only through the port of New York and is limited to the large, thick-skinned variety of the avocado. The importation of the small, purple, thin-skinned variety of the fruit of the avocado and of avocado nursery stock under 18 months of age is prohibited.

Cotton.—The order of April 27, 1915, prohibits the importation of cotton from all foreign countries and localities, except under permit and in accordance with the other provisions of the regulations issued under said order, on account of injurious insects, including the pink bollworm. These regulations apply in part to cotton grown in and imported from the Imperial Valley, in the State of Lower California, in Mexico.

Corn.—The order of March 1, 1917 (Amendment No. 1, with Regulations, to Notice of Quarantine No. 24), prohibits the importation of Indian corn or maize in the raw or unmanufactured state from the countries and localities listed in Notice of Quarantine No. 24, except under permit and in accordance with the other provisions of the regulations issued under said order, on account of injurious diseases of Indian corn.

Cottonseed products.—The order of June 23, 1917, prohibits the importation of cottonseed cake, meal, and all other cottonseed products, except oil, from all foreign countries, and a second order of June 23, 1917, prohibits the importation of cottonseed oil from Mexico except under permit and in accordance with the other provisions of the regulations issued under said orders, on account of injurious insects, including the pink bollworm.

Citrus fruits.—The order of June 27, 1917 (Notice of Quarantine No. 28, with Regulations), prohibits the importation from the countries and localities listed therein of all species and varieties of citrus fruits, excepting only oranges of the mandarin class (including satsuma and tangerine varieties), on account of the citrus-canker disease. Oranges of the mandarin class (including satsuma and tangerine varieties) may be imported under permit and in accordance with the other provisions of the regulations issued under said order.

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